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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,566	03/30/2004	Susanne A. Paul	SIL.P0077	4126
30163 7590 01/04/2007 JOHNSON & ASSOCIATES PO BOX 90698 AUSTIN, TX 78709-0698			EXAMINER SHINGLETON, MICHAEL B	
			ART UNIT	PAPER NUMBER
			2817	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/04/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/813,566	Applicant(s) PAUL ET AL.	
	Examiner Michael B. Shingleton	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47-85 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47-85 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9-28-2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 47-49 and 62-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al. 5,994,963 of record (Kawai) in view of Nalbant 6,763,114 (Nalbant), Meiksin et al. 6,370,396 (Meiksin) and Gerfault 5,453,717 (Gerfault).

Figures 1 and 2 and the relevant text of Kawai discloses a conventional portable telephone arrangement otherwise known as a cellular telephone (See column 1, around line 10). (Note that the term "cellular" merely refers to "a geographical area (as a city) is divided into small sections each served by a transmitter of limited range so that any available radio channel can be used in different parts of the area simultaneously". Thus being that every portable radiotelephone has limited range these phones can only operate in a limited cell or geographical area and thus are cellular in nature.) The arrangement of Kawai includes a transceiver 7, 8, an antenna 4 and an RF power amplifier 15. However, Kawai is silent on the details of the structure that makes up the power amplifier 15.

At least Figures 3 and 6B along with the relevant text of Nalbant discloses a CMOS based bridge amplifier device and method for operating the CMOS device. The device of Nalbant is primarily disclosed as being used for audio applications. However, this is merely one example of the intended use of Nalbant. The circuit of Nalbant also may be used in "applications requiring low power consumption and needing high power output". The power amplifier of Kawai is one such use requiring low power consumption (portable telephone) and high power output (transmit.). As shown in Figure 6B of Nalbant, two CMOS pairs of transistors are provided for thereby forming the bridge power amplifier structure as claimed. The first CMOS pair is composed of Q1 and Q4. The second CMOS pair is composed of transistors Q2 and Q3 as is clearly illustrated in Figure 6B of Nalbant. Figures 6A and 6B in combination in Nalbant clearly shows that these pairs of switching devices are connected between a "voltage differential". As recited in column 2, around line 9, the CMOS transistor pair Q1 and Q4 is turned on and off together as a unit. Such is also the case with the transistor pair Q2 and Q3. The switching of these

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pairs is done in an alternative manner, i.e. when Q1 and Q4 are "on" then the pair represented by Q2 and Q3 are off. Element 10 and the inductances L1-L4 form an inductance between the switching devices of each respective pair of switching devices. Depending on the use alternative loads could be used as disclosed by Nalbant.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the amplifier structure of Kawai with that of Nalbant because as the Kawai reference is silent on the exact structure of the amplifier "15" of Kawai one of ordinary skill in the art would have been motivated to use any art-recognized equivalent amplifier structure such as the one taught by Nalbant.

Meiksin discloses that a bridge type amplifier is used to power an antenna so as to enable the supply of high current into the antenna without the need for a high voltage. Gerfault is another reference that teaches the use of a bridge-type amplifier as power amplifier for RF application wherein that bridge amplifier is used to power an antenna of a wireless device. Note elements Q1-Q4 and "A" of Gerfault.

Meiksin and Gerfault clearly attests to the fact that bridge amplifiers are commonly used for the power amplifier for powering an antenna in a wireless device, i.e. they are an art-recognized equivalent means for the providing of a power amplifier that powers an antenna. Accordingly, these references Meiksin and Gerfault also provides further motivation to one of ordinary skill in the art to make the obvious combination mentioned above involving the replacement of the amplifier 15 of Kawai with bridge amplifier structure like that of Nalbant and that is so as to provide for an efficient amplifier to power the antenna as taught by Meiksin and Gerfault.

Claims 47-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meiksin et al. 6,370,396 (Meiksin) in view of Nalbant 6,763,114 (Nalbant).

Meiksin discloses a RF structure and method where the bridge power amplifier is able to supply high current into the antenna without the need for a high voltage. Meiksin is silent on the structure of the bridge amplifier structure. Being that an antenna is involved in Meiksin the device is considered to be "wireless". Applicant adds the limitation "suitable for transmitting signals in a cellular telephone system" to many of the newly presented claims. Since the terminology cellular is a very broad term as noted in the response to the arguments presented below Meiksin is seen as meeting this limitation. Note the abstract of Meiksin that states that audio and data signals are to be transmitted and received between stations which is the basic arrangement of a cellular telephone system. However, to those claims that have been amended a new rejection has been added to fully address these new limitations and thus these

new rejections were necessitated by the amendment to the claims.

At least Figures 3 and 6B and the relevant text of Nalbant disclose a CMOS device and method for operating the CMOS device. The device of Nalbant is primarily disclosed as being used for audio applications. However, this is merely one example of the intended use. The circuit may be used in "applications requiring low power consumption and needing high power output". The power amplifier of Meiksin is one such use requiring low power consumption and high power output. As shown Figure 6B of Nalbant two CMOS pairs are provided thereby forming a bridge power amplifier structure. The first CMOS pair is composed of Q1 and Q4. The second CMOS pair is composed of Q2 and Q3 as is clearly illustrated in Figure 6B of Nalbant. Figures 6A and 6B in combination of Nalbant clearly shows these pairs of switching devices being connected between a "voltage differential" (Note the ground connection shown in Figure 6B and the supply potential shown in Figure 6A.). As recited in column 2, around line 9, the CMOS transistor pair Q1 and Q4 is turned on and off together as a unit. Such is also the case with the transistor pair Q2 and Q3. The switching of these pairs is done in an alternative manner i.e. when Q1 and Q4 are on then the pair represented by Q2 and Q3 are off. The inductances L1-L4 form an inductance between the switching devices of each respective pair of switching devices. Claims like claim 47 recites that there is a "transformation network" coupled between the first and second switching devices. This transformation network is formed by the capacitors C1-C4 or the inductors L1-L4 or any combination of these elements.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the bridge amplifier structure of Meiksin with the one taught by Nalbant because as the Meiksin reference is silent on the exact structure of the bridge amplifier structure one of ordinary skill in the art would have been motivated to use any art-recognized equivalent bridge amplifier structure including one that has a power amplifier such as the one taught by Nalbant. Thus the use of RF power amplification would be provided for in such a combination.

Conclusion

Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection. However, with respect to the claims that were not amended applicant is apparently of the belief that CMOS makes the claims allowable over the art of record. This is respectfully disagreed with for the transistors of Nalbant are both p and n-channels and thus are CMOS in accordance with the broad definition of CMOS. If applicant is attempting to claim more specific structure like p-wells with the terminology of "CMOS" then applicant should then recite this structure specifically in the claims. See MPEP 2114 that recites that claims drawn to structure are to be distinguished by structure. This issue of MPEP 2114 also relates to the newly added limitation of being "suitable for transmitting signals in a cellular telephone system". This does not recite or claim any specific structure. The examiner contends that since system of Meiksin is wireless that it is capable of providing this

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function even though the claims lack structure to enable this function. Note that cellular merely refers to "a geographical area (as a city) is divided into small sections each served by a transmitter or limited range so that any available radio channel can be used in different parts of the area simultaneously". Meiksin's areas may be smaller than most but never-the-less there are areas where modulated voice is transmitted and received (See abstract). Also a telephone can be used to transmit digital or general data that Meiksin also clearly recites to in the abstract.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 and after July 15, 2005 the fax number will be 571-273-8300. Note that old fax number (703-872-9306) will be service until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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MBS
December 25, 2006



Michael B. Singleton
Primary Examiner
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